Understanding COPD

Learning About Your Condition

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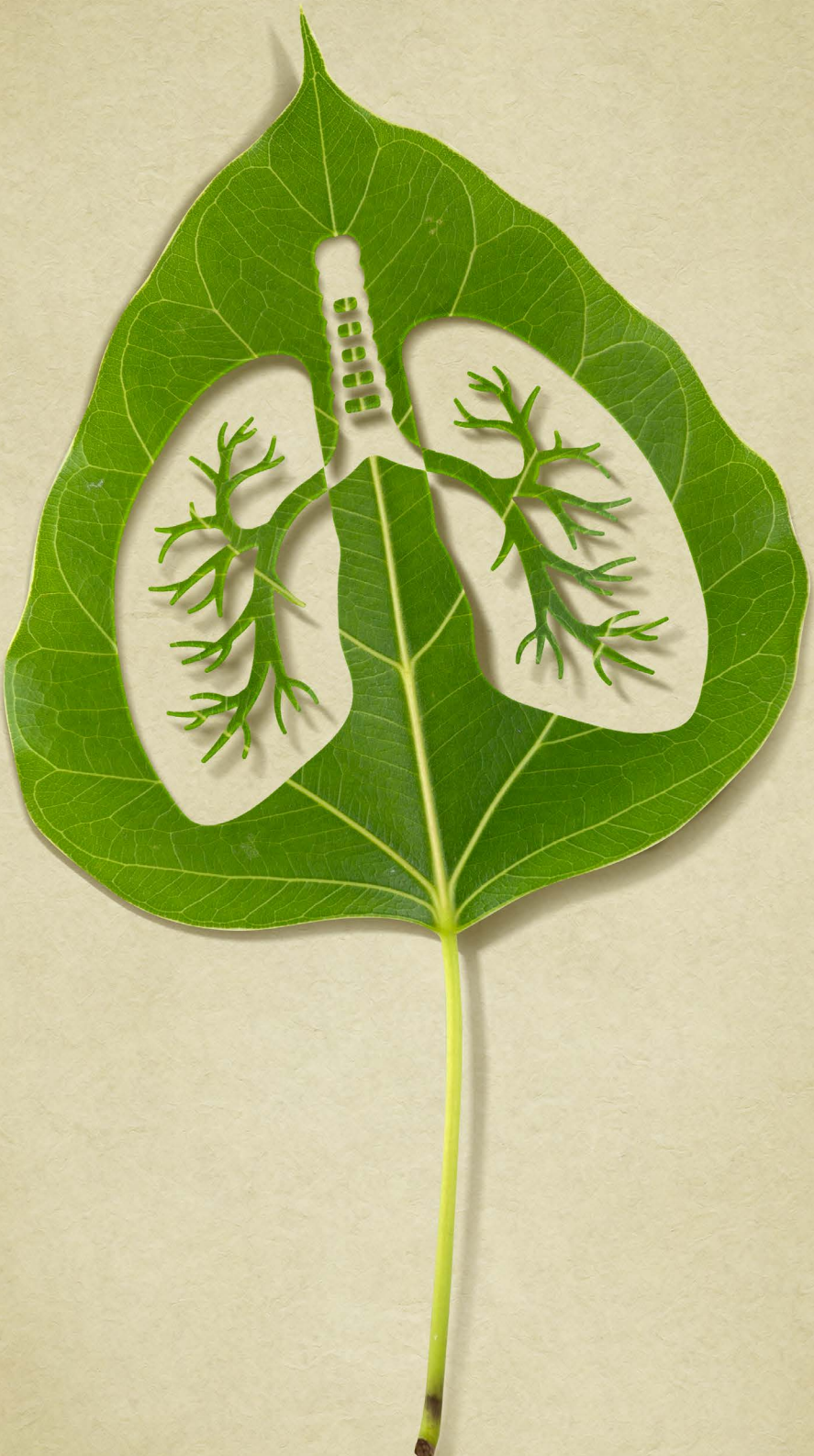

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UNDERSTANDING CHRONIC OBSTRUCTIVE PULMONARY DISEASE

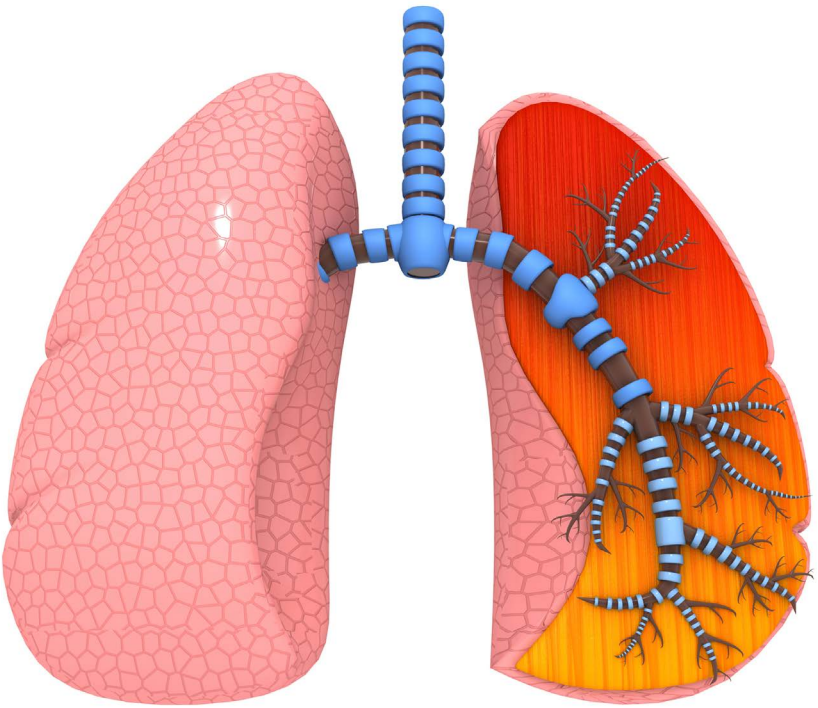
Chronic obstructive pulmonary disease (COPD) is a term used to describe chronic lung diseases including emphysema and chronic bronchitis. COPD is characterized by breathlessness. COPD can't be reversed, but it can be treated and managed effectively. Learning about COPD can help you control your symptoms. In this guide, you will learn more about COPD and how to stay as healthy, active, and independent as possible.

HOW THE LUNGS WORK

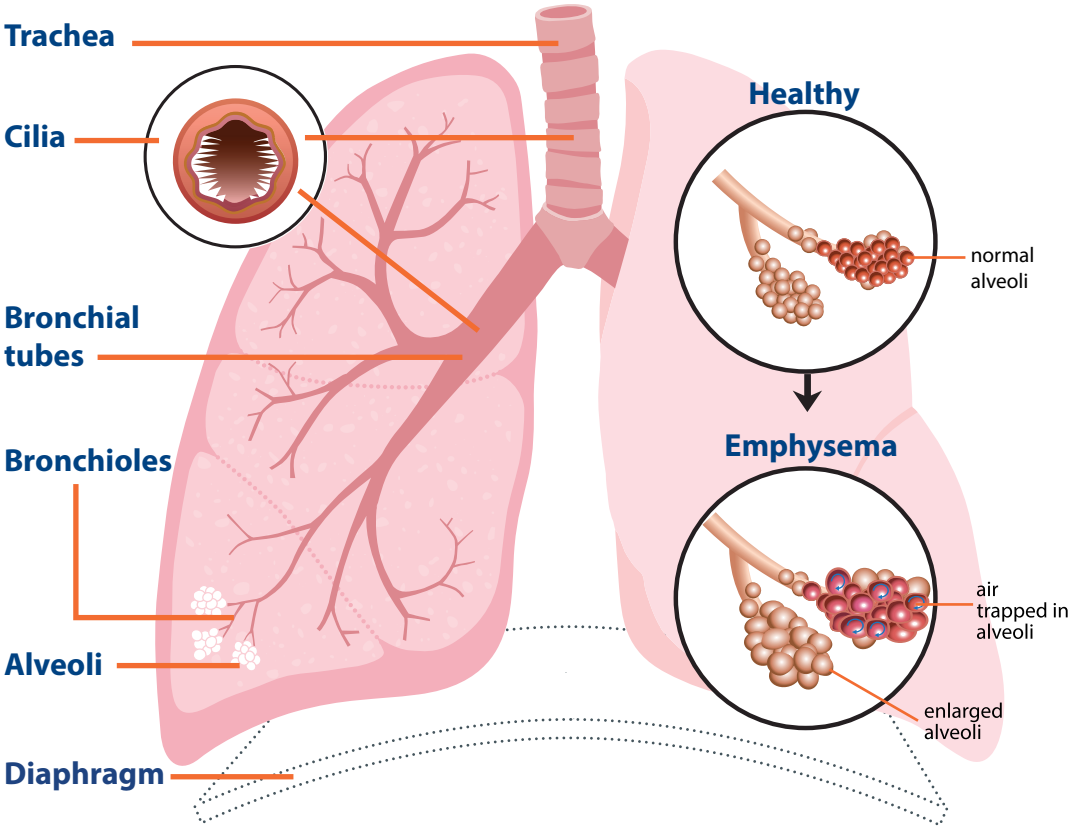
To understand COPD, it helps to know how the lungs work. When you breathe in, air comes in through your nose and mouth, moves through the trachea (windpipe), and down into the lungs. Air moves farther into your lungs through the bronchial tubes. These tubes look like the roots of a tree. They are lined with tiny hair-like fibers called cilia. The cilia help to move mucus through the bronchial tubes so it can be coughed out. Once the air passes through the bronchial tubes, it ends in the alveoli. These are air sacs at the very end of the bronchial tubes.

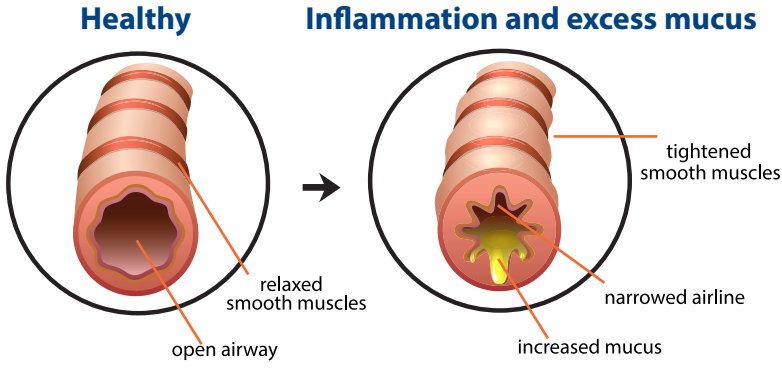
In these air sacs, oxygen from the air you breathe in is absorbed into the blood. Oxygen is then carried in the blood to all parts of your body. Carbon dioxide, the waste product of that process, is carried back to your lungs and breathed out.

Now, let's take a closer look at the different parts that make up the respiratory system.



PARTS OF THE RESPIRATORY SYSTEM





SYMPTOMS OF COPD

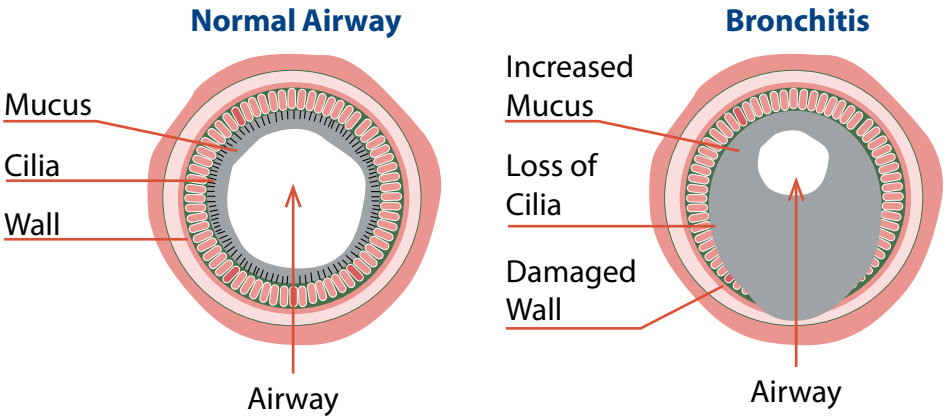
Your COPD symptoms can change from day to day. Some days you may have no symptoms, while other days you may have every symptom on the list! Common symptoms of COPD include:

- Shortness of breath, especially with activity
- Chest tightness or pain
- Coughing with or without mucus
- Wheezing

Now that we know what COPD is, let's learn more about the lung diseases that make up COPD.

Chronic Bronchitis

If the bronchial tubes in the lungs become damaged over time, they become irritated and inflamed (swollen). Smoking can cause the cilia in your bronchial tubes to slow down and eventually stop working. This loss of cilia makes it harder to cough up mucus. When you cough out mucus, we call it a "productive cough." If you have a productive cough that lasts at least three months for two years in a row, this is called chronic bronchitis. Bronchitis means inflammation of the bronchial tubes.



Emphysema

When the alveoli (air sacs) and the tissue around them become damaged, it is called emphysema. In emphysema, the walls inside the alveoli disappear. Without their walls, the tiny sacs combine to make larger sacs. But those larger sacs don't work well. They can't expand and contract to move air in and out. They also can't absorb oxygen as easily, and air gets trapped in the lungs, making it hard to breathe out completely. Your body also can't get enough oxygen from the air sacs. When this happens, you feel short of breath.

These larger sacs also cannot get rid of the carbon dioxide as well as they should. The buildup of carbon dioxide can lead to many problems throughout the body, including fuzzy thinking and feeling tired.

WHAT CAUSES COPD?

COPD is caused by cigarette smoking, secondhand smoke, and breathing in dust, fumes, or chemicals at work or at home. COPD can also be caused by alpha-1 antitrypsin deficiency, which is a genetic or inherited disorder. Let's talk more about each of these now.

Smoking

Smoking is the number one cause of COPD in the United States.

Smoke contains more than 4,000 chemicals. 40 of them cause cancer.

Smoke causes irritation and inflammation of the lungs.

Smoking destroys lung tissue.

Tobacco smoke can overwhelm the body's defenses, causing COPD.

If you're a smoker, try to quit. Benefits of quitting may include:

- Decreased risk of heart disease, lung disease, and cancer
- Less shortness of breath and coughing
- More energy
- Better liver function
- Better digestion

TO STOP SMOKING, MAKE A PLAN

☐ Set a date to quit. What date have you chosen?

_____

_____

☐ Remove all cigarettes from your home and car. What other places may expose you to cigarettes and smoke?

_____

_____

☐ Talk with your health care provider about tools like nicotine gum, a nicotine patch, or other medications that help with cravings. Which tools will you use?

_____

_____

☐ Exercise and eat right. Write your diet and exercise goals below and talk about them with your health care provider.

_____

_____

☐ Reward yourself with the money you save from not buying cigarettes. How much have you saved?

_____

_____

☐ Get help and support from hotlines, community and hospital-sponsored programs, and support groups. Which one will you try?

_____

_____

Keep trying–don't give up!

OTHER CAUSES OF COPD

Harmful Chemicals

COPD can also be caused by breathing in dust, fumes, or chemicals over a long period of time. This usually occurs at work but can also happen at home. Even if breathing in these toxins did not cause your COPD, you should avoid them because they can make your symptoms worse. You can also try wearing a mask. An N-95 respirator is a special mask that can filter out 95 percent of particles in the air if fitted and worn correctly.

Other agents and toxins can also affect your COPD. Here are some common irritants to avoid.

IRRITANTS

Air Pollution
Stay indoors on ozone action days. Keep windows closed. Use air conditioning if you have it.

Aerosol
Use pump sprays, solid deodorants, and cologne.

Cleaners/Bug Spray
Use natural or unscented cleaning products. Use an N-95 respiratory mask, if necessary.

Dust
Change furnace filters often.
Have someone help with cleaning.

Bacteria, Mold, Mildew
Replace sponges often. Watch for visible mold. Use a humidity meter or dehumidifier.

Open Fires
Stay clear of open fires and smoke. Close your windows if your neighbors are burning leaves, wood, or other materials nearby.

Early Life Exposures

Sometimes COPD is caused by coming in contact with different substances or having infections in childhood. For some people, being exposed to toxic or harmful chemicals and pollution as a child can cause COPD as an adult. There is also a link between asthma in childhood and/or young adulthood and COPD later in life. You can find more information on asthma and COPD under the "Other Lung Disorders" section of this booklet.

A Genetic Link

COPD can also be caused by a genetic disease called alpha-1 antitrypsin deficiency (Alpha-1). People with Alpha-1 have a much lower-than-normal level of the blood protein called alpha-1-antitrypsin. This protein protects the lungs from damage caused by breathing in toxins.

You can find out if you have Alpha-1 through a simple blood test. There is a specific treatment available for Alpha-1 that can slow the progress of COPD. For more information on alpha-1 antitrypsin deficiency, visit the Alpha-1 Foundation's website at ***www.alpha1.org***.

COPD AND OTHER CONDITIONS (COMORBIDITIES)

Comorbid conditions (multiple chronic conditions that you have at the same time) seem to be more common in people with COPD.

These conditions may include:

No one knows why it is so common for people with COPD to have other serious medical problems. One reason may be the medicines that people with COPD must take. All medicines have side effects and risks. This is especially true for COPD medicines such as corticosteroids.

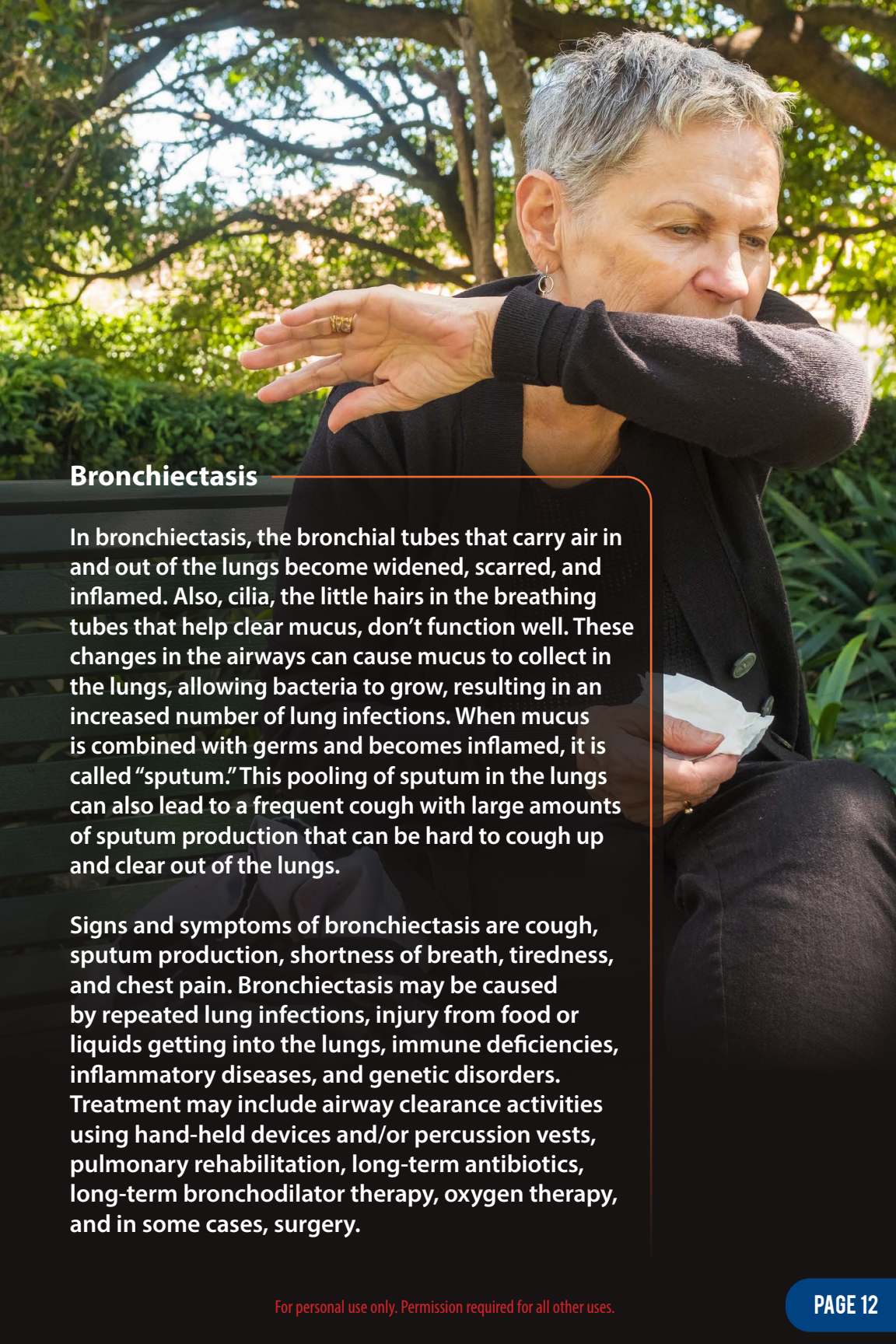
OTHER LUNG DISORDERS

There are other chronic lung disorders that have some things in common with COPD. Some of the signs, symptoms, and triggers (things that cause flare-ups) are similar, and some are not. But they all have one thing in common – they can make it harder to breathe. Some of these lung conditions are described here.

Asthma

In asthma, the insides of the bronchial tubes are inflamed and narrowed. Signs and symptoms of asthma often include shortness of breath, coughing, wheezing, and chest pain. People with asthma can have normal physical examinations between episodes of difficulty breathing. Asthma can be mild, with symptoms coming just once in a while. But asthma can also be severe, with symptoms that happen daily or almost daily. This can lead to a poor quality of life and the inability for individuals to do the things they want to do. It's important to know that even people with mild asthma may suffer severe asthma episodes.

Asthma treatments may include medication for short-term relief or daily use of a medication for maintenance to prevent symptoms and flare-ups. Treatment can also include watching for early symptoms, avoiding things that trigger flare-ups, and staying away from risks at home, at school, and at work.



Bronchiectasis

In bronchiectasis, the bronchial tubes that carry air in and out of the lungs become widened, scarred, and inflamed. Also, cilia, the little hairs in the breathing tubes that help clear mucus, don't function well. These changes in the airways can cause mucus to collect in the lungs, allowing bacteria to grow, resulting in an increased number of lung infections. When mucus is combined with germs and becomes inflamed, it is called "sputum." This pooling of sputum in the lungs can also lead to a frequent cough with large amounts of sputum production that can be hard to cough up and clear out of the lungs.

Signs and symptoms of bronchiectasis are cough, sputum production, shortness of breath, tiredness, and chest pain. Bronchiectasis may be caused by repeated lung infections, injury from food or liquids getting into the lungs, immune deficiencies, inflammatory diseases, and genetic disorders. Treatment may include airway clearance activities using hand-held devices and/or percussion vests, pulmonary rehabilitation, long-term antibiotics, long-term bronchodilator therapy, oxygen therapy, and in some cases, surgery.

Nontuberculous Mycobacterial Lung Disease

Nontuberculous mycobacterial (NTM) lung disease is a chronic, progressive lung disease caused by NTM bacteria.* NTM is commonly found in soil and water in our environment. We all come in contact with it. When particles of soil and droplets of water get into the air, we breathe them in. This bacteria is usually not harmful to people with healthy lungs, but people with chronic lung disorders such as COPD, bronchiectasis, and asthma are at greater risk. The damage in their lungs makes them vulnerable to infections such as NTM lung disease.

When it gets into the lungs, NTM can invade the cells that are there to protect the lungs from infection. This can lead to chronic lung infections and pneumonia. Common symptoms of NTM lung disease are ongoing cough, shortness of breath, fever, weight loss, fatigue, and chest pain.

NTM lung disease is a chronic, progressive lung disease, but it can be treated in a variety of ways. Treatment may include antibiotic medications. For those with a cough that produces a lot of sputum, airway clearance therapy is important. Reducing exposure to NTM can also help. Treatment for NTM lung disease may also include oxygen therapy, and in some cases, surgery.

*When talking about the disease itself, we say "NTM lung disease." When we talk about the bacteria that causes NTM lung disease, we simply say "NTM."

HOW DO WE TREAT COPD?

While there is no cure for COPD yet, your condition can still be managed and allow you to live a full life. COPD can be treated with inhaled and oral (taken by mouth) medications, pulmonary rehabilitation programs, and oxygen therapy, if needed. Talk with your health care provider about your COPD and any other health problems you may have. Then you can work together as a team to make a treatment plan. With the right treatment, you can experience fewer symptoms and a better quality of life.

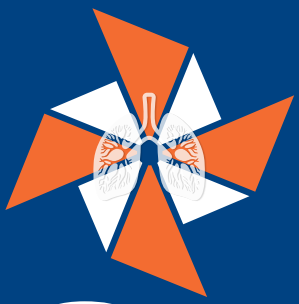
RESOURCES

For information designed to help you manage your COPD and thrive with this condition, please visit The COPD Foundation Guides for Better Living at ***copdf.co/guides***

Learn more about COPD on the COPD Foundation's Website at ***www.COPDFoundation.org***

For more information on bronchiectasis and NTM lung disease, visit the Bronchiectasis and NTM Initiative website at ***copdf.co/bronchntm***

NOTES



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COPD360 Community Support Line:
1-866-316-COPD (2673)

Bronchiectasis and NTM Information Line:
1-833-411-LUNG (5864)

This guide has been reviewed by members of the
COPD Foundation Guides for Better Living Review Team